

DEPARTMENT OF TRANSPORTATION**DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch

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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-001941**Date Inspected:** 14-Apr-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 1400**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 2300**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Chen Xie**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG deck panels**Summary of Items Observed:**

On this day CALTRANS OSM Quality Assurance Inspector (QA) Steve Hall was present during the times noted above for observations relative to the fabrication of the SAS Superstructure being performed by Zhenhua Port Machinery Company (ZPMC) at Changxing Island, in Shanghai, China. QA observed and/or found the following:

OBG bay 1 (Gantry 1)

QA observed ZPMC qualified welding personnel perform the GMAW and SAW welds joining the closed U-Ribs to deck panel DP-379-001. QA observed 2 ZPMC QC inspectors in the vicinity of the welding operations including ZPMC CWI identified as Chen Xie. There were also 3 American Bridge/Fluor (ABF) inspectors in the area as well. QA and QC inspectors performed a random visual inspection of the GMAW root welds on this panel. All completed GMAW welds appeared to meet the requirements of the contract documents. QA observed ZPMC qualified welding personnel perform the SAW welds only joining the closed U-Ribs to deck panel DP-325-002. QA and QC monitored the welding process continuously throughout the evening. QA completed a production panel welding reports for deck panels DP-379-001 and DP-325-002. The reports are on file in the Caltrans QA office. The welder identifications and the welding parameters as measured with the calibrated gages on the machines appeared to be in conformance with the posted WPS's and were as follows:

DP-379-001 GMAW

Volts: 29.8 – 31.1 Amps: 359 – 382 Travel Speed: 530 mmpm

WELDING INSPECTION REPORT

(Continued Page 2 of 3)

DP-379-001 SAW

Volts: 24.6 – 25.3 Amps: 667 – 684 Travel speed: 510mmpm

Welder ID#'s

Weld joint 1: 059421

Weld joint 2: 059416

Weld joint 3: 062265

Weld joint 4: 059361

Weld joint 5: 062265

Weld joint 6: 059361

Weld joint 7: 059378

Weld joint 8: 059443

Weld joint 9: 059378

Weld joint 10: 059443

DP-325-002 GMAW

Volts: 30.4 – 31.1 Amps: 362 – 384 Travel speed: 530mmpm

DP-325-002 SAW

Volts: 24.6 – 25.4 Amps: 666 – 688 Travel speed: 510mmpm

Welder ID#'s

Weld joint 1: 059443

Weld joint 2: 059378

Weld joint 3: 059361

Weld joint 4: 062265

Weld joint 5: 059361

Weld joint 6: 062265

Weld joint 7: 059416

Weld joint 8: 059421

Gantry 2 (idle)

QA performed visual verification inspection for completed welds on deck panel DP-053-001 welds W1, W2, W3, W4 and W5. All welds that were inspected appeared to exhibit some degree of undercut, lack of fusion, overlap, oversize and/or under fill. All of the Partial Joint Penetration (PJP) welds joining U-Rib to deck plate that have inspected on this panel do not appear to comply with the visual acceptance criteria specified in AWS D1.5 2002 and the contract documents and have been rejected by ZPMC and ABF QC inspectors. QA completed a Caltrans QA visual verification weld inspection report concerning only the welds that were verified for the OBG deck panel mentioned above. The report is on file in the Caltrans QA office.

Other general observations by QA were as follows:

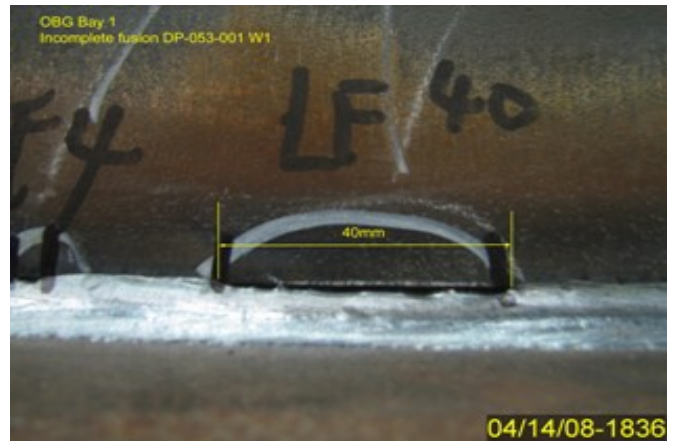
ZPMC personnel fitting U-Ribs to deck panel DP-460-001.

WELDING INSPECTION REPORT

(Continued Page 3 of 3)

ZPMC personnel machining the weld bevel on U-Ribs.

ZPMC personnel drilling, forming, splicing and fitting diaphragms in U-Ribs.



Summary of Conversations:

Only general conversations were held between QC inspectors and QA concerning this project.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Patrick Lowery (858)-344-2712, who represents the Office of Structural Materials for your project.

Inspected By:	Hall, Steven	Quality Assurance Inspector
Reviewed By:	Cuellar, Robert	QA Reviewer
